FY 2011/2012 QC Category No. 9
STATEWIDE INSPECTION GUIDELIST
Structures Foundations

PILE PLACEMENT

1. When pre-forming pile holes, comply with hole sizes and depths covered in the contract documents. The void between pile and hole must be filled with approved sand or grout. [Spec. 455-5]

2. For concrete piles, the proper number of lifting points must be used. Piles must also be stored properly. [Spec. 455-7 & Standard Index 20600]

3. Prestressed concrete piles must be inspected for defects as soon as possible after upon delivery to the project site. Defects must be reported to the Project Administrator as soon as possible, but in any case, prior to use. [Good Practice, CPAM 10.2.5]

4. Jetting requirements include: no jetting in completed embankments, jetting and driving with external jets requires 2 jets, specific jet nozzle placement, all piles in a group must be jetted prior to driving where practical; and pumps, supply lines and jet pipes per Pile Installation Plan (PIP). [Spec. 455-5]

5. Pre-drilling of holes through compacted fill or as starter holes must comply with the specifications. [Spec. 455-5]

6. For Sure-Lock pile splices - threaded rebars must penetrate into the splice plate at least the distance specified in the shop drawings - verify by measuring the distance from plate top to bar end. (Good practice)

PILE DRIVING

7. Comply with the pile driving criteria as established by Geotechnical Engineer. [Spec. 455-5]

8. Maintain proper alignment of leads and pile within tolerances. [Spec. 455-5]

9. Fill out pile driving log, keeping special driving procedures and precautions in mind. For open-end diesel hammers, a device to determine ram stroke is required. [Spec. 455-5]

10. Detailed set check and redrive procedures are covered in the Specifications related to blow count interval, same pile cushion, and hammer warm up. [Spec. 455-5]

11. Detailed bearing and penetration requirements are covered in the specifications. [Spec. 455-5]

PILE DRIVING … continued

12. Splices and Buildups for concrete and steel piles must be performed properly. [Spec. 455-7 and 455-8]

13. Final pile top elevation and alignment must be within tolerance, (strands and reinforcement must be severed prior to breaking of piles that require cut off and pile must be visually checked for deficiencies after driving is complete). [Index 20601Spec. 455-5 (pile splices) & 455-7 (pile cut-offs)]

ALL DRILLED SHAFTS INCLUDING SHAFTS UNDER MISCELLANEOUS STRUCTURES

14. Drilled Shaft Installation Plan: Have an approved copy of the drilled shaft installation plan on site. [Spec. 455-15]

15. When drilled shaft concrete is placed in any wet shaft, the QC Manager shall provide slump loss test results before drilled shaft concrete operations begin. The tests shall demonstrate that the drilled shaft concrete maintains a slump of at least 5 inches throughout the concrete elapsed time. Inform the Engineer at least 48 hours before performing such tests in order to allow proper Verification of the results. Perform slump loss testing of the drilled shaft mix using a laboratory acceptable to the Engineer. Perform all procedures required by specification. Do not perform slump loss test for dry excavation. [Spec. 346-3.2]

16. Drilled Shaft Test Hole (demonstration): document activities and note problems in the Daily Report of Construction, test shafts must be removed to 2 ft. [0.6 m] below ground line. [Spec. 455-18]

17. Detailed shaft excavation procedures are required by the Spec. including alignment, logging of excavated material, over-reaming and shaft cleanliness [Spec. 455-15]

18. Slurry properties: Contractor must perform proper slurry viscosity testing and sand content must be within acceptable limits. [Spec. 455-15]

19. Shaft inspection: when using a shaft inspection device, assist the Geotechnical Engineer as needed; when shaft inspection device is not used, the shaft bottom must be probed with a solid bar, if possible, or with a weighted line to check for unevenness and firmness. [Spec. 455-15]

ALL DRILLED SHAFTS INCLUDING SHAFTS UNDER MISCELLANEOUS STRUCTURES … continued

20. Temporary casing in drilled shafts supporting miscellaneous structures provided at least one foot above the ground surface to at least five feet below the ground surface [455-15]

21. Detailed rebar placement procedures are covered in the specifications and include time of placement, bar extensions, clearance tolerances, and spacer requirements. [Spec. 455-16, 415]

22. Drilled shaft concrete placement must conform to all applicable Specs. including 346, 400 and 455 including method of placement, pump line requirements, duration of placement, and slump. Concrete must be overpoured until good quality concrete is evident at the top of the shaft. [Spec. 455-17]

23. Curing of the top surface of the shaft shall be as specified in Spec. 400-16 and shafts exposed to a body of water shall be protected from the action of the water by leaving the forms or casings in place for a minimum of 7 days unless the concrete has attained a compressive strength of 2500 psi [17 MPa] or greater. [Spec. 455-17]

24. Reinforcement bars, dimensions, length, spacing and number, must be in accordance with the plans and standard indexes. Spacers, with the size, frequency and spacing meeting the specifications, must be installed in the cage. CSL access tubes must be installed in all shafts in required numbers and configuration. [Spec. 455-16]

25. CSL testing performed as required. [Spec 455-17]

26. If the time of excavation exceeds the limits specified in the specifications, overreaming must be performed. [Spec. 455-15.11.5]